Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) An ultrasonic transducer, comprising:

a housing;

acoustic elements arranged in said housing;

an integrated circuit arranged in said housing adjacent said acoustic elements;

first connection means for connecting said acoustic elements to said integrated circuit; and

second connection means for connecting said integrated circuit to electrical transmission lines, connection sites for said first and second connection means and said acoustic elements being arranged on a common surface of said integrated circuit.

2. (Original) The ultrasonic transducer of claim 1, wherein each of said first and second connection means are comprised of at least one of metal bumps, solder bumps, polymer bumps, thin-line

bonding, z-axis conductive elastomeric connectors, z-axis conductive adhesive, z-axis conductive film and reflow solder.

3. (Original) The ultrasonic transducer of claim 1, wherein said first connection means are comprised of at least one of metal bumps, solder bumps, polymer bumps, thin-line bonding, z-axis conductive elastomeric connectors, z-axis conductive adhesive, z-axis conductive film and reflow solder, and said second connection means are different from said first connection means and are comprised of at least one of wire-bonds, direct wire attachments and tab bonding of leads.

4. (Original) The ultrasonic transducer of claim 1, wherein said second connection means comprise an intermediate interconnection substrate comprising a thin film circuit, ceramic circuit, laminate circuit technology.

5. (Previously presented) The ultrasonic transducer of claim 1, wherein said second connection means comprise an intermediate interconnection substrate comprising a semi-rigid circuit comprising flexible and rigid circuit portions.

6. (Previously presented) The ultrasonic transducer of claim 5, wherein said interconnection substrate is bent such that a vertical size of an assembly of said acoustic elements, said integrated circuit and said interconnection substrate is less than seventy-five percent of a horizontal length of said integrated circuit and such that a first portion of said interconnection substrate extends in a first direction along a length of said second connection means and a second portion of said interconnection substrate extends in a second direction along said length of said second connection means at an angle that is at least perpendicular to said first direction.

7. (Original) The ultrasonic transducer of claim 5, wherein said interconnection substrate is bent such that a vertical size of an assembly of said acoustic elements, said integrated circuit and said interconnection substrate is less than fifty percent of a horizontal length of said integrated circuit.

8. (Currently amended) An ultrasonic transducer, comprising:

a thermally-conductive body;

a flexible circuit bent at least partially around said body such that a first portion of said flexible circuit extends in a first direction along said flexible circuit's length and a second portion of said flexible circuit extends in a second direction along said flexible circuit's length that is at least perpendicular to said first direction;

an acoustic assembly connected to said flexible circuit;

electronic components for controlling said acoustic assembly; and

connection means for connecting signal transmission lines to said flexible circuit,

said acoustic assembly, said electronic components and the signal transmission lines being connected in a circuit defined in part by said flexible circuit with one of said electrical components being an integrated circuit, said acoustic assembly being positioned on a surface of the integrated circuit.

9. (Previously presented) The ultrasonic transducer of claim 8, wherein said flexible circuit is bent around said body such that a first portion of said flexible circuit that extends in said first direction is on a first side of said body and a second portion of

said flexible circuit that extends in said second direction is on a second side of said body opposite said first side of said body.

10. (Previously presented) The ultrasonic transducer of claim 9, wherein said acoustic assembly is arranged on a first portion of said electronic components and said first portion of said flexible circuit and a second portion of said electronic components are arranged on said second portion of said flexible circuit.

11. (Original) The ultrasonic transducer of claim 8, wherein said acoustic assembly is arranged in contact with said body.

12. (Previously presented) The ultrasonic transducer of claim 10, wherein said body defines a cavity, said second portion of said electronic components being arranged on said flexible circuit and in said cavity.

13. (Previously presented) The ultrasonic transducer of claim 8, wherein said flexible circuit has a 180° bend around said body such that said first portion of said flexible circuit is arranged on a first side of said body and said second portion of said flexible

circuit is arranged on a second side of said body opposite said first side of said body and wherein said first direction extends in an opposite direction of said second direction.

14. (Previously presented) The ultrasonic transducer of claim 8, wherein said acoustic assembly includes acoustic elements and an integrated circuit electrically coupled to said acoustic elements, said flexible circuit having connection sites and said integrated circuit having connection sites, further comprising wire-bonds connecting said connection sites of said integrated circuit and said connection sites of said flexible circuit, wherein said acoustic elements are positioned on said integrated circuit.

15. (Previously presented) The ultrasonic transducer of claim 14, wherein two rows of said wire-bonds are formed along each of a pair of opposed edges of said integrated circuit on a same side as said acoustic elements.

16. (Previously presented) The ultrasonic transducer of claim 8, wherein said flexible circuit has a plurality of bends about said body such that said first portion of said flexible circuit extends

over a first side of said body and said second portion of said flexible circuit extends over a second side of said body.

17. (Original) The ultrasonic transducer of claim 8, wherein said flexible circuit has first and second planar portions on opposite sides of said body separated by a 180° bend and first and second terminal end portions each separated from a respective one of said first and second planar portions by a 180° bend.

18. (Original) The ultrasonic transducer of claim 17, wherein said connection means comprise two additional flexible circuits, each having connections for signal transmission lines, and conductive film adhesive attaching each of said additional flexible circuits to a respective one of said first and second terminal end portions of said flexible circuit.

19. (Original) The ultrasonic transducer of claim 18, wherein said flexible circuit has a flap portion separated from said first planar portion of said flexible circuit by a 180° bend, said connection means further comprise one additional flexible circuit having connections for signal transmission lines and conductive

film or adhesive attaching said additional flexible circuit to said flap portion of said flexible circuit.

20. (Original) The ultrasonic transducer of claim 8, wherein said flexible circuit has a planar portion on one side of said body and a flap portion separated from said planar portion by a 180° bend, said connection means further comprise an additional flexible circuit having connections for signal transmission lines and conductive film or adhesive attaching said additional flexible circuit to said flap portion of said flexible circuit.

21. (Original) The ultrasonic transducer of claim 8, wherein said flexible circuit has first and second planar portions on opposite sides of said body separated by a 180° bend and a first terminal end portion separated from said first planar portion by a 180° bend, said second planar portion of said flexible circuit being a terminal portion of said flexible circuit.

22. (Original) The ultrasonic transducer of claim 21, wherein said connection means comprise an additional flexible circuit having connections for the signal transmission lines, and

conductive film adhesive attaching said additional flexible circuit to said flexible circuit.

23. (Currently amended) An ultrasonic transducer, comprising:

a flexible circuit having connection sites;

an acoustic assembly mounted on said flexible circuit and comprising an integrated circuit having connection sites and acoustic elements electrically coupled to said integrated circuit;

electronic components for controlling said acoustic assembly to transmit and receive ultrasonic waves, said acoustic assembly and said electronic components being connected in a circuit defined in part by said flexible circuit; and

wire-bonds connecting said connection sites of said integrated circuit and said connection sites of said flexible circuit, wherein said connection sites of said integrated circuit are positioned on and above a same side of said integrated circuit as said acoustic assembly which is also positioned on said integrated circuit, said electronic components being positioned below the same side of said integrated circuit.

24. (Original) The ultrasonic transducer of claim 23, wherein said wire-bonds are formed along only a portion of the periphery of said integrated circuit.

25. (Original) The ultrasonic transducer of claim 23, wherein two rows of said wire-bonds are formed along each of a pair of opposed edges of said integrated circuit.

26. (Currently amended) A method for manufacturing an ultrasonic transducer, comprising the steps of:

arranging an acoustic assembly on a flexible circuit that extends along a first axis;

coupling electronic components for controlling the acoustic assembly to the acoustic assembly via the flexible circuit;

coupling signal transmission lines to the flexible circuit such that the electronic components, the acoustic assembly and the signal transmission lines are connected in a circuit defined in part by the flexible circuit; and

bending the flexible circuit at least partially around a thermally-conductive body to form at least one 180° bend about the body with the acoustic assembly being spaced from the electronic

components along a second axis that extends substantially perpendicular to the first axis and both the acoustic assembly and the electronic components are positioned, with respect to each other, along the second axis.

27. (Previously presented) The method of claim 26, wherein the acoustic assembly and electronic components are arranged on the flexible circuit when the flexible circuit is in a flat form and the body has a cavity, the flexible circuit being bent to place the electronic components in the cavity.